SEC Registration No.
CN201619200

12F Montblanc Building
Burgos-Chaves Sts.,
Cagayan de Oro City,
Philippines

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Training-Workshop on Meaningful Statistics Pedagogy for Research Teachers and Data Analysts

July 24-26, 2025
Iloilo City, Philippines

OBJECTIVES OF THE TRAINING-WORKSHOP:

(1) To explain the core principles of meaningful statistics pedagogy and its importance for effective research and data analysis.
(2) To acquire correct understanding of statistical concepts which leads to correct applications;
(3) To find non-parametric measures when assumptions of parametric tests are not complied; and
(4) To critically evaluate the role of AI applications and tools in streamlining statistical analysis

Requirement:
Participants should bring a laptop and mobile/pocket wi-fi for the discussion, exercises and workshops.

DAY 1: 24 July 2025

8:00 am- 5:00 pm — ***Arrival of Participants***
Pre-registration and distribution of training kits

DAY 1: 25 July 2025

8:00 am- 8:40 am — ***Registration and distribution of training kits***

9:31-10:30 am — Session 1

Cultivating Meaningful Statistics Pedagogy

10:31-12:00 nn — Session 2

Core Statistical Concepts

Data Types and Measurement Scales
Descriptive and Inferential Statistics
Hypothesis Testing Fundamentals

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Effect Size and Confidence Intervals

12:01-1:00 pm **LUNCH BREAK**

1:01 pm –3:00 pm Session 3

Parametric Testing and Assumption Verification

Review of Common Parametric Tests

T-tests (Independent, Paired)
ANOVA (One-way, Two-way conceptual)
Pearson Correlation and Simple Linear Regression

Crucial Assumptions: Normality, Homoscedasticity, Independence of observations.
Methods for Assumption Checking: Visual inspection (histograms, Q-Q plots) and statistical tests (Shapiro-Wilk, Levene's test)
Consequences of Assumption Violation

3:00 pm – 4:30 pm Session 4

Navigating Non-Parametric Alternatives

Key Non-Parametric Tests and Their Applications

Comparison of two independent groups: Mann-Whitney U Test

Comparison of two dependent groups: Wilcoxon Signed-Rank Test

Comparison of three or more independent groups: Kruskal-Wallis H Test

Correlation: Spearman's Rank Correlation (alternative to Pearson's)

Interpretation of Non-Parametric Results

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4:31 pm – 5:00 pm	***Open Forum/Sharing New Learning and Insights***

Day 2: 26 July 2025

8:00 am - 8:45 am	***Registration***
8:45 am - 9:00 am	**Opening Program** Invocation National Anthem Synthesis of Day 2
9:01 am – 12:00 nn	Session 5 ***Statistical Modelling and Interpretation*** **Introduction to Multiple Linear Regression** **Interpreting Regression Outputs:** *Coefficients, R-squared, significance, and model fit* **Common Pitfalls in Interpretation** **Practical Applications**
12:01 pm – 1:00 pm	**LUNCH BREAK**
1:01 pm – 3:00 pm	Session 6 ***AI in Statistical Analysis*** **Leveraging AI for Statistical Principles and Data Preprocessing and Cleaning** **Critical Evaluation of AI-Driven Statistical Insights:** *AI Bias and Ethical Considerations* **Role of Researcher in Data Analysis**

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3:01 pm – 4:30 pm	Session 7 ***Integrating AI Tools into Statistics Pedagogy and Practices*** **Teaching Students the Responsible Use of AI Maintaining Rigor and Interpretability in Data Analysis**
4:01 pm – 5:00 pm	Feedback Open Forum/Sharing New Learnings and Insights Presentation of Certificates Closing Program

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